



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

FEB 9 2000

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

MEMORANDUM

SUBJECT: EPA Office of Inspector General Survey of the
Superfund National Remedy Review Board

FROM: Stephen D. Luftig, Director *Steve Luftig*
Office of Emergency and Remedial Response

TO: Superfund National Policy Managers

Barry N. Breen, Director
Office of Site Remediation Enforcement

Walter W. Kovalick, Jr., Director
Technology Innovation Office

E. Timothy Oppelt, Director
National Risk Management Research Laboratory

Steven D. Page, Director
Office of Radiation and Indoor Air

Earl Salo, Associate General Counsel for Superfund (Acting)
Office of General Counsel

James Woolford, Director
Federal Facilities Restoration and Reuse Office

Purpose

The purpose of this memorandum is to transmit the results of a recent EPA Office of Inspector General (IG) survey of the Superfund National Remedy Review Board (NRRB), and to convey my appreciation for your support in working to improve the consistency and cost effectiveness of proposed Superfund cleanup plans.

Background

As you are aware, EPA created the NRRB in January 1996 as part of its Superfund Administrative Reform effort. The NRRB reviews proposed cleanup decisions that meet cost-based review criteria to assure that the proposals are cost effective and consistent with Superfund law, regulations, and guidance. With the support of the regions, the board has accomplished a great deal. To date, regions estimate that board recommendations have resulted in potential savings of approximately \$70 million from the 43 proposed cleanup decisions the board has assessed. In addition, the review process offers the opportunity to share remedy selection issues common to all regions, and provides a significant boost to national consistency, both for the sites reviewed and other sites across the regions.

This past summer the IG conducted a survey to determine the NRRB's effectiveness in reviewing high cost remedial actions, reducing the cost of remedial cleanups, and promoting consistency in remedy selections among the regions. On December 21, 1999, Deputy Assistant Inspector General for Internal Audit Michael Simmons issued the results of their survey in a memorandum to OSWER Assistant Administrator Timothy Fields. A copy of this report is attached.

The IG concluded that the board had been generally effective in advising regions on the viability and cost effectiveness of the proposed plans it reviewed. The IG also noted that the NRRB reform supported national consistency in remedial actions, and indicated that the reviews contributed to improved decision-making and support for remedy selections. The auditors also made several suggestions for the board to consider, primarily related to how the board operates and how it communicates its recommendations. The NRRB has already met to discuss the IG's suggestions at its January 11-13, 2000, meeting in Seattle, WA. The board is currently considering several changes based in part on these suggestions.

I am pleased to transmit these survey results, and I would like to convey my appreciation to you and others on your staffs who have worked hard to implement this important reform. I would also like to acknowledge the commitment and hard work of the NRRB members: Dan Coughlin, John Frisco, Walt Graham, Mike Norman, Jerry Schmitt, Bill Honker, Craig Smith, Dale Vodehnal, John Kemmerer, Wayne Pierre, Trish Erickson, Jerry Jones, Ron Wilhelm, David Cooper, Tim Mott, Mary Gleaves, Yolaanda Walker, and Andy Zownir for their commitment to this reform. Their efforts have made a significant contribution toward controlling remedy costs, promoting consistent and cost-effective cleanup decisions. For these reasons, the NRRB continues to be well received by our many program stakeholders.

cc: T. Fields
NRRB members
R. Hall
C. Hooks
OERR Regional Center Directors

attachment



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
THE INSPECTOR GENERAL

December 21, 1999

MEMORANDUM

SUBJECT: Survey of the Effectiveness of the National Remedy Review Board
Audit Report 2000-P-00005

FROM: Michael Simmons /s/ *Michael Simmons*
Deputy Assistant Inspector General
for Internal Audit

TO: Timothy Fields
Assistant Administrator
for Solid Waste and Emergency Response

This report presents the results of our survey of the U.S. Environmental Protection Agency's (EPA) National Remedy Review Board (NRRB). This survey was initiated primarily to determine the NRRB's effectiveness in reviewing high cost remedial actions, reducing the cost of remedial cleanups, and promoting consistency in remedy selections among the regions.

Based on this survey, we concluded that the NRRB had been generally effective in providing sound advice to regions on the viability and cost effectiveness of remedies which met the thresholds for NRRB review. This advice has resulted in potential cost savings in some cases and produced a system for fostering national consistency in remedial actions. More importantly, NRRB's oversight has attributed to improved decision-making and support for remedy selections at the regional level. During the survey we did offer several suggestions for consideration which may further enhance the effectiveness and efficiency of the NRRB. These suggestions are discussed in the Survey Results section of this report. We do not believe that additional review of this area is warranted at this time and only provide these suggestions in an effort to assist in furthering the NRRB's mission and objectives.

We appreciate the assistance given to us by the NRRB and regional staffs during the survey fieldwork. The NRRB staff members, who assisted us, were very knowledgeable of NRRB's operations and responsibilities and were invaluable to the completion of the survey objectives.

ACTION REQUIRED

This survey report provides you with suggestions for your consideration. No response or further action is required relating to this report but, we believe that these suggestions may provide the NRRB with opportunities to further enhance its operations. The suggestions were favorably received by NRRB staff members present at the survey exit conference conducted on July 20, 1999.

Should your staff have any questions or wish to discuss our suggestions further, please have them contact Mary Boyer, Divisional Inspector General, Southern Audit Division, at (404) 562-9830, or Bill Samuel, Headquarters Audit Liaison, at (202) 260-3189.

PURPOSE, SCOPE AND METHODOLOGY

Our overall survey objectives were to determine the NRRB's effectiveness in reviewing high cost remedial actions, reducing the cost of remedial cleanups, and promoting consistency in remedy selections among the regions. Specific survey objectives were to determine if: (1) NRRB recommendations were sufficient in detail to permit the application of NRRB's advice to other sites and, thereby, create consistency among regions in remedy selection; (2) all significant remedial actions that met dollar thresholds were being submitted by regions for NRRB review; (3) regions were underestimating remedial costs to avoid NRRB review; (4) regions were implementing NRRB decisions or properly documenting their decisions not to follow NRRB recommendations; (5) dollar savings attributed to NRRB activities were realistic or have been realized in remedial completions.

To accomplish these objectives, we: (1) obtained EPA guidance pertaining to NRRB operations; (2) reviewed NRRB files for all 34 Superfund sites with remedies reviewed by the NRRB from January 1996 through December 1998; (3) reviewed NRRB operating results from January 1996 through December 1998; (4) interviewed headquarters NRRB members and staff, Region 4 NRRB member, and applicable Region 4 Remedial Project Managers (RPM); (5) performed a detail review of files for Region 4 sites subject to NRRB review; and (6) requested information and documentation from regional NRRB members/RPMs in the other nine EPA regions related to NRRB reviews for sites within each region. We also reviewed recommendation memoranda from the NRRB to the regions and how information was disseminated between offices.

The audit survey fieldwork was conducted from May 1999 through September 1999. The survey was performed in accordance with Government Auditing Standards. The evaluation of internal controls was limited to the survey scope and objectives. No opinion is expressed on the overall adequacy of management controls for activities pertaining to NRRB operations. However, potential control weaknesses related to the survey scope are discussed further in the Survey Results section of this report.

BACKGROUND

In a November 28, 1995 memorandum, the Assistant Administrator for the Office of Solid Waste and Emergency Response (OSWER), created the NRRB as part of a comprehensive package of reforms designed to make the Superfund program faster, fairer, and more efficient. The NRRB is a part of the Office of Emergency and Remedial Response (OERR) and has been fully operational since January 1996. The NRRB is a peer review group composed of 20 EPA managers or senior technical experts. Ten of the members come from EPA Headquarters and ten come from the EPA regions.

The NRRB's goal is to annually review about 10 percent of all proposed cleanup remedies for Superfund sites. The NRRB's reviews are generally limited to proposed high cost cleanup decisions that meet specific dollar thresholds to assure that the proposed remedies are cost effective and consistent with current law, regulations, and guidance. However, the NRRB has reviewed proposed remedies, based on regional requests, that did not meet these thresholds. Currently, the NRRB reviews all proposed cleanup decisions for both remedial actions (except Department of Energy radioactive waste sites) where the:

- action costs more than \$30 million; or
- action costs more than \$10 million and is 50 percent greater in cost than the least costly, ARAR (Applicable or Relevant and Appropriate Standards, Limitations, and Requirements) compliant, protective cleanup alternative (\$10 million/50% rule).

For Department of Energy sites, where radioactive waste is the primary contaminant, the NRRB reviews cleanup decisions where the:

- action costs more than \$75 million; or
- action costs more than \$25 million and is 50 percent greater in cost than the least costly, ARAR compliant, protective alternative.

In addition, the NRRB reviews all non-federal facility and Department of Energy non-time critical removal actions where the action costs more than \$30 million.

Regions which have proposed remedy decisions meeting the NRRB's criteria are required to submit their proposed remedy recommendation and alternatives to the NRRB for review. Usually, the proposal packages are to be submitted to and reviewed by the NRRB before the proposal is issued for public comment. After receipt of the proposal packages, the NRRB reviews the package and then meets with regional representatives to discuss the proposed cleanup decisions. NRRB subsequently prepares a decision memorandum either supporting the region's proposal or offering alternative recommendations for consideration. NRRB recommendations are advisory in nature and are not required to be implemented by the regions. However, regions should document the basis for not implementing NRRB recommendations. As of December 1998, the NRRB had reviewed proposed cleanup decisions for 34 sites with

estimated costs of almost \$2.9 billion. As of January 1999, EPA regions had documented estimated future savings of about \$68 million based on NRRB recommendations on cleanup decisions for 7 of the 34 sites.

SURVEY RESULTS

We concluded that the NRRB was generally effective in performing comprehensive reviews of high cost remedies and providing advice that fostered consistency in regional remedial decisions. The NRRB's requirement for regional proposal packages and subsequent reviews have also promoted improved decision-making and documentation of proposed remedies by regional staffs. Below are the survey results for each survey objective, along with a few suggestions we believe could further enhance NRRB operations.

NRRB Recommendations Were Sufficient to Foster Consistency in Remedy Selections

Our first survey objective was to determine if NRRB recommendations were presented in sufficient detail to permit application of NRRB's advice to other sites and, thereby, create or promote consistency among regions in remedy selection. Based on reviews of NRRB correspondence and discussions with regional remedial project managers (RPM), we concluded that NRRB memoranda reflected sufficient detail when the NRRB had serious concerns with the proposed remedies and recommended alternatives to the regions. The NRRB expressed serious concerns with remedies proposed for 11 of 34 sites. Also, the NRRB's memoranda provided a means for disseminating advice among all regions. The NRRB's decisions were also disseminated through the Internet, annual RPM meetings, regional staff briefings, and regional NRRB members. However, for the 23 instances where the NRRB essentially supported the region's proposal, we believe more detail is needed in order for all RPMs to know what contamination existed and the proposed remedy that was supported by the NRRB. The NRRB should take the opportunity to better identify the site characteristics, the recommended remedy, and the basis for remedy selection. This additional data would enhance the ability of other regions to understand the site conditions involved and potentially use this information in future remedy selections. RPMs indicated they preferred to have as much background information incorporated into the NRRB's decision memoranda as possible. By including the NRRB's rationale for accepting regional remedy selections, the regions could further utilize the information as a reference for cleanup decisions on similar sites and to enhance consistency on a national basis.

Suggestion: The NRRB decision memoranda should provide RPMs with as much background information as possible on the proposed remedies, alternatives considered, and site conditions, even when the NRRB supports a region's remedy selection.

Controls to Ensure that All Appropriate Remedies are Reviewed Would Be Difficult and Costly

Our second survey objective was to determine if all significant remedial actions that met NRRB dollar thresholds were being submitted by regions for NRRB review. A review of NRRB site files and available database information and discussions with NRRB members and RPMs revealed that the NRRB relies on the regions to identify and submit all sites with remedial cost estimates that meet NRRB's criteria. The NRRB has no independent system for tracking remedial cost estimates to ensure that all applicable high cost remedies are submitted to the NRRB as required. Because remedy cost estimates for proposed remedies are constantly changing and are not input into a database, the NRRB has no viable method to track proposed remedial cost estimates and, thereby, ensure that all actions meeting NRRB's review criteria are submitted to NRRB for review. Cost estimates for remedies included in Records of Decision (ROD) are tracked. However, these estimates are for final remedy selections and can occur long after the preliminary remedy selection and related cost estimates that are normally reviewed by the NRRB. In addition, any database information tracking remedial cost estimates may reflect an estimate that is \$10 million or more but it would not indicate whether the estimated cost for the selected remedy is 50% greater than the least costly alternative as required under the "\$10 million/50% rule." Therefore, we concluded that a tracking system or related control to ensure that all appropriate remedy selections were submitted by regions to the NRRB may not be practical or effective. The "honor system" currently used by NRRB is probably the best, most practical alternative.

Of the proposed remedies for 34 sites reviewed by the NRRB through December 1998, 25 sites had remedies with estimated costs of \$30 million or more. Two sites with estimated remedial costs close to the \$30 million threshold were also reviewed based on regional requests and the controversial remedies involved. The remedies for the remaining seven sites fell under the "\$10 million/50%" criteria. Of these seven sites, NRRB's reviews generated estimated savings for only one site. Since the NRRB's "\$10 million/50% rule" precludes a data base determination of whether all remedies which meet this threshold have been submitted to the NRRB for review and appears to generate low savings estimates from NRRB reviews, the NRRB may need to review the criteria for potential revision.

Suggestion: The NRRB should re-evaluate the criteria for submission of selected remedies for review and consider eliminating the \$10 million/50% rule. The NRRB could then lower the \$30 million threshold to ensure that the percentage of sites with proposed remedies (about 10 percent) submitted annually for review remained approximately the same. This would simplify the review criteria, permit the NRRB to better track estimated remedial costs, and allow the NRRB to concentrate on those sites with higher potential costs which could generate the most future savings.

Underestimation of Remedial Costs Would Be Difficult to Identify

The third survey objective was to ascertain whether regions had underestimated remedial costs to avoid NRRB review.

Discussions with the OIG's Engineering and Science Staff indicated that the numerous assumptions, variables and contingencies involved in designing remedial actions and estimating related costs, as well as changing site conditions, would make it difficult to determine that remedial costs were intentionally underestimated. The costing of labor and materials involved in a remedial action was not a primary concern since these estimates should be reviewed by contract staff. However, assurance that all needed elements of a remedy and related costs were included in a remedy proposal was a primary concern and would be difficult to ascertain due to the variables and technical judgments involved. In addition, discussions with RPMs and review of RPM site files indicated that EPA contractors normally prepared remedial action proposals and related cost estimates and provided these proposals and estimates to the RPMs. The RPM should use these proposed costs to determine if the estimates meet the criteria for submission to the NRRB. Since remedial cost estimates are generated through a contractor and actual costs are tracked, the risk that an RPM would change the estimate or fail to forward the estimate to avoid NRRB's review appeared marginal. However, one RPM told us that if he had a choice between remedial cost estimates and one estimate was outside the NRRB's cost thresholds, he would choose that estimate because of the additional work involved in preparing a remedy proposal package for NRRB review.

Regions Generally Complied With NRRB Recommendations

The fourth survey objective was to determine if regions were implementing NRRB decisions or properly documenting their decisions not to follow NRRB recommendations.

Our review of NRRB and regional records indicated that regions have generally implemented NRRB recommendations. Regional actions may have been modified based on changes in site conditions but the basic NRRB recommendations were generally addressed. However, regions did not always respond to NRRB recommendation memoranda indicating their acceptance, rejection, or modification of NRRB decisions. In addition, NRRB memoranda did not request a response. NRRB records for reviews of proposed remedies for 34 sites found that the regions had responded to NRRB recommendations for only 16 sites. By requesting and receiving regional responses to NRRB recommendations, the NRRB would not only have documentation as to final regional remedy decisions, but would also have information for future reference and tracking purposes. Also, these responses sometime document estimated savings that regions have calculated based on implementation of NRRB's recommendations.

Suggestion: The NRRB should include, in each decision memorandum containing recommendations, a request for a response from the region indicating the region's acceptance or

disagreement with the NRRB's decision and documentation of any estimated savings as a result of NRRB's review.

Estimated Dollar Savings from NRRB Recommendations Appeared Realistic

The fifth survey objective was to determine if dollar savings attributed to NRRB activities were realistic or have been realized in remedial completions.

Based on regional documentation and discussions with NRRB members and RPMs, estimated savings for seven sites appeared to be realistic and sometimes conservative. For two sites, savings estimates listed by the NRRB were over \$2 million less than the estimated savings documented by the regions. In another case, the region estimated savings that ranged from \$20 to \$70 million. NRRB recorded the lower amount of \$20 million.

NRRB only maintained an informal list of sites with estimated savings. NRRB files included regional responses for 4 of the 7 sites that documented the estimated savings recorded by NRRB. For three sites, NRRB had no documentation to support its recorded savings. However, documentation that we subsequently obtained from the applicable regions generally supported the savings recorded for these sites.

Discussions with RPMs and regional NRRB members indicated that none of the remedies reviewed by the NRRB since NRRB inception had been completed. Therefore, no comparison could be made to determine if estimated savings were actually realized.

OTHER MATTERS

The Size of the NRRB May Reduce Its Effectiveness

The NRRB currently has 20 members - 10 from EPA Headquarters and 10 from the regions. NRRB staff expressed concerns about the NRRB's size and the efficiency of the NRRB's current structure. NRRB staff indicated that a twenty member NRRB may be too large for effective consensus decision-making and may present various logistical and cost inefficiencies. Therefore, an opportunity exists for OERR to consider reviewing and possibly revising NRRB's size and structure.

NRRB Does Not Retain Sufficient Documentation of Reviews for Tracking Purposes

During our review of NRRB files, we attempted to reconstruct the documentation used by the NRRB to render recommendations and estimate potential savings. A significant portion of the information was not in the NRRB's files and could only be obtained from the regions. For instance, NRRB did not retain a copy of each site's proposal package. Without specifics of the proposals, the basis for NRRB's concerns and recommendations are not readily understood. In

addition, the NRRB does very little tracking of remedy recommendations and estimated savings resulting from NRRB reviews.

Suggestion: To enhance the NRRB's effectiveness in the future, the NRRB should consider maintaining all documentation related to remedy recommendations and create a database of information for the purpose of tracking actual remedies used and associated costs. By maintaining this information, the NRRB will be able to actually compare outcomes to original decisions and estimates. This will enable the NRRB to make even better educated and consistent decisions in the future and provide the NRRB with the ability to self-appraise the effectiveness of past remedy decisions and related savings.

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